

EXECUTIVE OFFICER SUMMARY REPORT
February 10, 2016

- ITEM: 6
- SUBJECT: Waste Discharge Requirements Amendment: An Addendum Modifying Discharge Specifications for the San Diego County Sanitation District, San Pasqual Academy Water Pollution Control Facility (Tentative Addendum No. 1 to Order No. R9-2009-0072) (Fisayo Osibodu).
- PURPOSE: To consider adopting Tentative Addendum No. 1 to Order R9-2009-0072 (Tentative Addendum, Supporting Document No. 1).
- RECOMMENDATION: Adoption of Tentative Addendum No. 1 to Order No. R9-2009-0072.
- PRACTICAL VISION: The Tentative Addendum implements the goal of the Practical Vision to maintain healthy waters in the San Diego Region by establishing waste discharge specifications for compliance with the Basin Plan water quality objective for groundwater and requirements established in the waste discharge requirements (WDRs) for the San Pasqual Academy Water Pollution Control Facility (WPCF). The Tentative Addendum is consistent with the Salt and Nutrient Management Plan for the San Pasqual Groundwater Basin and the Practical Vision Chapter for achieving a sustainable local water supply.¹
- KEY ISSUES: 1. The Discharger violated the annual average Total Dissolved Solids (TDS) discharge specification for effluent in Order No. R9-2009-0072 and in the preceding Order No. 94-04 four times between 2001 and 2014. To address this compliance issue, the Discharger requested increasing the TDS discharge specification from 800 to 1,000 milligrams per liter (mg/L).

¹ Practical Vision Chapter:
http://www.waterboards.ca.gov/sandiego/water_issues/Practical_Vision/docs/PV_5_Sustainable_Local_Water_Supply_Dec2013.pdf

2. Raising the TDS discharge specification will solve the Discharger's compliance problem without causing receiving groundwater to exceed the TDS water quality objective for the Basin and will save the Discharger the cost of installing expensive supplemental treatment facilities at the San Pasqual Academy WPCF.
3. The Tentative Addendum also reduces the permitted average monthly wastewater flow rate from 0.050 to 0.025 million gallons per day (mgd), and establishes a permitted annual average wastewater flow rate of 0.020 mgd. These changes ensure that the proposed increase in the TDS discharge specification will not cause a net increase in maximum potential TDS mass loading from the San Pasqual Academy WPCF.
4. To better understand the long-term effects of climate change, drought, and increased water conservation measures on the concentration of TDS in the effluent over time, the Tentative Addendum requires the Discharger to report the overall average effluent TDS concentration and graph the overall effluent TDS trend in each successive annual monitoring report.

DISCUSSION:

Order No. R9-2009-0072 (Order) prescribes WDRs to the San Diego County Sanitation District (County) for the treatment and disposal of domestic wastewater from the San Pasqual Academy WPCF. San Pasqual Academy is a residential education campus for foster teens. The Academy is located off Highway 78 at Academy Drive in Escondido, California (see Supporting Document No. 3). The 238-acre campus consists of individual family-style homes, an on-site accredited high school, a cafeteria, a technology and career information center, an auditorium, recreation fields, a gymnasium, a Health and Wellness Center, a Day Rehabilitation Clinic, a swimming pool, Fire Department, and a water pollution control facility (WPCF).

The San Pasqual Academy WPCF consists of bar screens and a lined aeration pond. The Order specifies a 30-day average flow limit of 0.050 mgd for the San Pasqual Academy WPCF. The average 30-day flow from the WPCF has been approximately 0.0042 mgd (4,200 gallons per day) from 2009-2014; well below the flow limit in the Order.

The Tentative Addendum revises the annual average TDS discharge specification for effluent in the Order from 800 to 1,000 mg/L. The water quality objective for TDS in the San Pasqual Basin is 1,000 mg/L not to be exceeded more than 10 percent of the time in any one year period, however, the annual effluent TDS concentration is not to exceed 1,000 mg/L for the calendar year. Average annual effluent TDS concentrations exceeded 800 mg/L four times between 2001 and 2014, with values of 832, 860, 863, and 879 mg/L, however, the overall average effluent TDS concentration calculated from all samples collected between 2001 and 2014 was 788 mg/L. Raising the annual average TDS discharge specification will solve the Discharger's compliance problem without causing receiving groundwater to exceed the TDS water quality objective for the Basin, and without the Discharger having to install costly supplemental treatment facilities to remove TDS.

Violations of the TDS discharge specification occurred during sustained periods of drought when source water TDS concentrations tend to be higher and evaporation effects are more pronounced at the WPCF aeration pond. These periods of elevated TDS concentration in the effluent have been balanced, however, by better effluent quality during normal or above normal rainfall years. .

Revision of the TDS discharge specification will prevent future violations of the Order, and will not unreasonably affect groundwater quality, because:

1. The Tentative Addendum reduces the permitted average monthly flow rate from 0.050 to 0.025 mgd and establishes a permitted annual average flow rate of 0.020 mgd. Reducing the average monthly flow rate will reduce the maximum potential TDS loading from the discharge from 334 to 209 pounds per day (lbs/d).
2. Compliance with the annual average TDS discharge specification of 1,000 mg/L should not result in an exceedance of the TDS water quality objective for the San Pasqual Hydrologic Area which is 1,000 mg/L, not to be exceeded more than 10 percent of the time in any one year period.
3. Groundwater is the source of potable water for San Pasqual Academy. Effluent quality from the San Pasqual

Academy WPCF reflects variations in groundwater supply. In addition to being affected by both seasonal and long-term groundwater recharge conditions, the effluent quality can also be affected by increased evaporation in the San Pasqual WPCF aeration pond during summer and fall months.

4. Salt loads associated with the discharges from the San Pasqual Academy WPCF make up less than 0.06 percent of the total salt load into the San Pasqual Groundwater Basin.² Reducing (or even eliminating) the small San Pasqual Academy WPCF salt loads would not discernibly improve groundwater quality for the basin.

If the discharge specification for TDS is not revised, the County will need to install costly supplemental treatment and disposal facilities to remove TDS in order to maintain consistent compliance with Order No. R9-2009-0072. Additional information on the rationale for revising the annual average discharge specification for TDS can be found in the Information Sheet for the Tentative Addendum (Supporting Document No. 4).

Climate change, drought, and water conservation measures may contribute to higher TDS concentrations in the effluent in the future. As a result, the Tentative Addendum requires the Discharger to report the overall average effluent TDS concentration and graph the overall effluent TDS trend in each successive annual monitoring report. If the overall TDS concentration reaches or exceeds 800 mg/L, the San Diego Water Board may require the Discharger to take actions to reduce the TDS concentration in the effluent.

The City of San Diego (City) submitted a comment letter on the Tentative Addendum (Supporting Document No. 5). The City requested that the effluent TDS discharge specification be maintained at 800 mg/L because of concerns over increased salt loading to the basin. After several discussions with the City and County, the City's concern was satisfactorily resolved as follows. The TDS discharge specification was raised to 1,000 mg/L, but the permitted average monthly flow rate was reduced from 0.050 to 0.025 mgd. An annual average flow rate of 0.020 mgd was also added to the Tentative Addendum. Reducing the average

² According to the San Pasqual Valley Groundwater Basin Salt and Nutrient Management Plan," prepared by the City of San Diego and dated May 2014.

monthly flow rate, and capping the annual average flow rate at 0.020 mgd will reduce the maximum potential TDS mass loading from the discharge from 334 to 209 lbs/d.

The San Diego Water Board's responses to the City's comments are included as Supporting Document No. 6. The Tentative Addendum and the Information Sheet have been revised to address the City's concerns regarding raising the TDS discharge specification (see Supporting Documents Nos. 7 and 8).

LEGAL CONCERNS:

None.

SUPPORTING DOCUMENTS:

1. Tentative Addendum No. 1 to Order No. R9-2009-0072
2. Order No. R9-2009-0072
3. Location Map
4. Information Sheet
5. City of San Diego Comment Letter
6. San Diego Water Board Response to Comments
7. Revised Tentative Addendum No. 1 to Order No. R9-2009-0072
8. Revised Information Sheet
9. Notification Letter

SIGNIFICANT CHANGES:

The Tentative Addendum makes the following significant changes to the Order:

1. Changes the annual average discharge specification for TDS from 800 to 1,000 mg/L.
2. Reduces the permitted average monthly flow rate from 0.050 to 0.025 mgd, and establishes an annual average flow rate of 0.020 mgd.
3. Increases the monitoring frequency for TDS from annually to quarterly and requires the County to conduct a study to determine whether the average effluent TDS concentration will remain below 800 mg/L in the long term.
4. Requires the County to submit a written report to the San Diego Water Board if the average monthly flow rate exceeds 0.01875 mgd.

**COMPLIANCE
RECORD:**

Four violations of the TDS discharge specification have occurred between 2001 and 2014, and one monitoring violation has occurred since 2010.

PUBLIC NOTICE:

Notification of this action was sent to known interested parties by mail on June 19, 2015 (Supporting Document No. 9). The Tentative Addendum was also posted on the San Diego Water Board website on the same day. These actions satisfy the public notification requirements of Water Code, division 7, section 13167.5 for a 30 day notice.